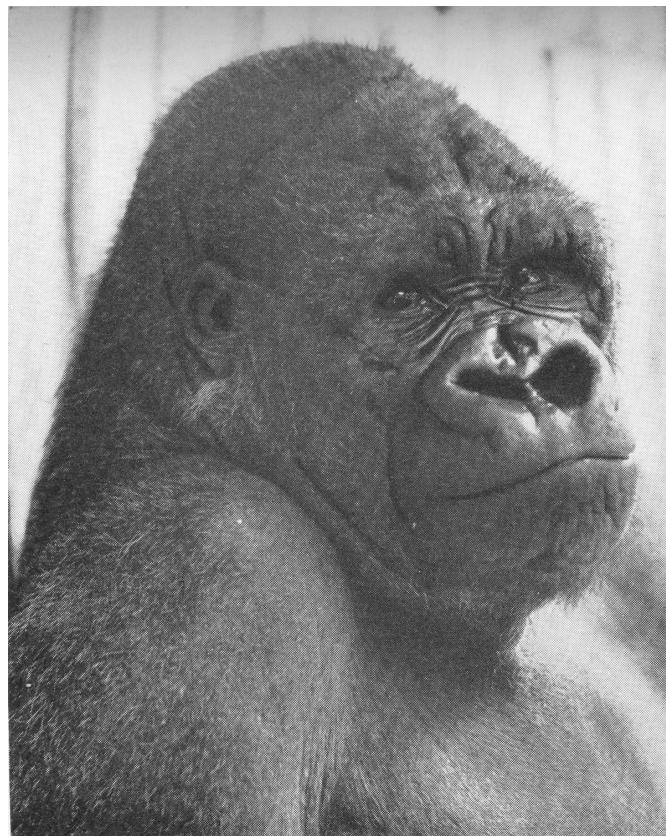


“On the Conformation of the Pterion in Diverse Human Races and the Primates”

by Dimitri Anoutchine

**ANTHROPOLOGY SOCIETY OF PARIS
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Robert K. Stevenson: Translator and Editor



Lowland gorilla

“On the Conformation of the Pterion in Diverse Human Races and the Primates”

Messieurs, I have set forth the history of this question in a separate communication to the Society. Today it is my pleasure to present the results of my own research, which has been performed on a great number of skulls held in the museums of Paris (the Natural History Museum and Museum of the Anthropology Society), London (the British Museum and Museum of the Royal College of Surgeons), Berlin, Dresden, Munich Leipzig, St. Petersburg, etc. By chiefly directing my attention to the forward extension of the temporal bone (*processus frontalis ossis temporalis*), I discovered that this prolongation, which as it joins the temporal bone with the frontal bone creates a process (that is, a bony prominence), is more often met with in certain races than in others, as you will note from the following table:

<i>Europeans</i> (according to Gruber, Calori, Ranke, Kuppfer)	12 out of 1000
<i>Mongols</i> (192 skulls of Kalmuks, Buriats, Chinese, Koreans, Japanese, Mongols, and Yakuts)	15 out of 1000
<i>Peruvians</i> (886 skulls)	21 out of 1000
<i>Eskimos</i> (41 skulls)	0
<i>South Americans</i> (156 skulls)	25 out of 1000
<i>Polynesians</i> (180 skulls)	33 out of 1000
<i>Malays</i> (166 skulls)	48 out of 1000
<i>Papuans</i> (336 skulls studied by Meyer and Mantegazza)	69 out of 1000
<i>Papuans</i> (39 skulls studied by Anoutchine)	51 out of 1000
<i>New Caledonians</i> (103 skulls)	107 out of 1000
<i>Fijians</i> (24 skulls)	83 out of 1000
<i>Tasmanians</i> (27 skulls) ¹	0
<i>Australian aborigines</i> (101 skulls)	99 out of 1000
<i>Negroes of Africa</i> (367 skulls)	128 out of 1000

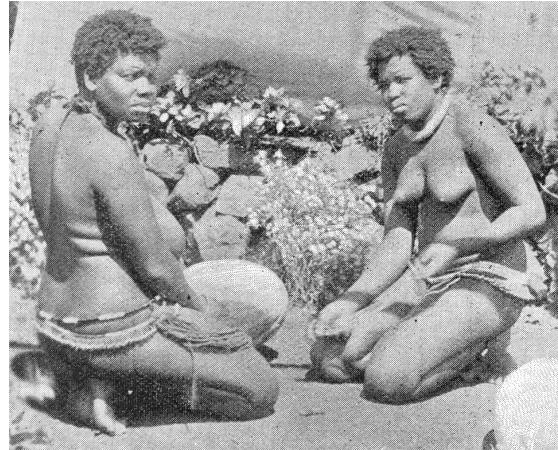
As you can see, in Negroes this fronto-temporal process manifests itself 10 times more often than among Europeans.² Regarding Hottentots, Bushmen, Hindus, Finns, Tartars, etc., I do not have at my disposal a sufficient number of skulls; among the Hottentots, though, this anomaly from all appearances is fairly rare. Now, the fronto-temporal process will likely not be found to occur more frequently in ancient races than among their contemporary counterparts. For example, Kuppfer found 4 out of 335 modern era Prussian skulls containing a fronto-temporal process, compared to 1 out of 107 very old Prussian skulls.

In all races Wormian bones and fontanelles in the region of the pterion (which craniologists call the area where the parietal, temporal, frontal, and spheroid bones come close to one another) are encountered with much greater frequency than the union of the temporal bone with the frontal; however, among Negroes the number of skulls possessing the fronto-temporal process is a little greater than those with fontanelles and Wormian bones. Given that many anatomists (Gruber, Calori, Virchow, Broca, etc.) have expressed the opinion that the presence of a fronto-temporal process is a simian or pithecid quality, I believed it useful to study in this regard the greatest possible number of skulls of apes. This I did, and what my research uncovered is that the fronto-temporal process is not a constant characteristic for all the genera of primates; additionally, among the anthropoids and Pithecia (catarrhine monkeys) it is not found in the same degree for all their respective genera, as you can observe from the following table:

Gorillas (46 skulls, of which 14 possessed sutures in the temporal region that were sealed, so that I was only able to take into consideration 32 skulls)	1000 out of 1000
Macaques (63 skulls, only 58 of which were able to be examined in regard to the pterion)	806 out of 1000
Chimpanzees (68 skulls, of which only 54 displayed recognizable sutures of the pterion)	889 out of 1000
Cynocephalids (72 skulls, 68 of which were compared with respect to the pterion)	808 out of 1000
Guenons (38 skulls, of which 34 were able to be compared)	765 out of 1000
Semnopithecids (Colobis, Langurs; 73 skulls, of which only 53 could be compared)	471 out of 1000
Orang-outangs (74 skulls, 65 of which were able to be compared)	292 out of 1000
Gibbons (126 skulls, of which 24 could be compared)	125 out of 1000



White-handed gibbons



Bantu-Swazi women

The fronto-temporal process manifests itself very infrequently in Europeans (about 1.2% of the time). However, it appears over 10 times more often in both gibbons and African Negroes (12.8% and 13% of the time, respectively).

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So, messieurs, you see that with gorillas and chimpanzees, as well as with macaques, guenons, and cynocephalids, the fronto-temporal process can be regarded as a normal characteristic, that is to say, it will be found in more than half of the cases, whereas with semnopithecids, orang-outangs, and gibbons it rather presents an anomaly, which among gibbons is not come upon more often than among Negroes. However, I must remark that there is a notable difference between human and simian skulls in this sense: in the former, as I earlier pointed out, fontanelles and Wormian bones in the region of the pterion are more frequently in evidence (up to five times as often) than the fronto-temporal process, whereas in primates these bones are an extreme rarity.

In platyrhine primates (New World monkeys) the presence of the fronto-temporal process is a rare anomaly, and yet the conformation of the pterion in them differs very much from that of human skulls. One might express this difference by saying that in man the pterion ordinarily presents the shape of an **H**, while in platyrhines it displays a figure *somewhat like an H*; in other words, in platyrhines the pterion is not formed by the union of four bones (frontal, parietal, temporal, and spheroid), but of five (frontal, parietal, temporal, spheroid and jugal). The orbital part of the jugal bone is so especially developed and, on the other hand, the wing-like spheroid is so short, that the jugal joins itself with the parietal by separating the spheroid from the frontal. This conformation is what characterizes the *Cebus*, *Lagothrix*, *Callitrix*, *Ateles*, *Pithecia*, *Brachyurus* genera and others; in fact, it is so characteristic that, as it has already been noted by

Joseph, its presence alone will prove sufficient whenever the teeth (for example, in the young individuals) do not permit one to make an exact classification. However, among some primates, most notably in the *Mycetes* and *Eriodes* genera, the temporal bone sometimes directs an extension of itself towards the frontal bone, which in certain cases only unites with the jugal bone (thus forming a *processus jugalis ossis temporalis* which separates the parietal from the spheroid), whereas in other cases it touches also the frontal, and forms a veritable fronto-temporal process.

DISCUSSION

Doctor PAUL TOPINARD. Monsieur Anoutchine, when you found the pterion anomaly on only one side of the skull, did you record it differently than when you observed it appearing on both sides?

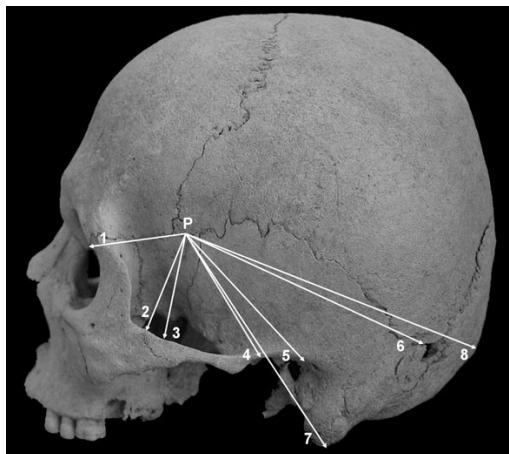
Monsieur DIMITRI ANOUTCHINE. In my statistical calculations I did not differentiate the cases where the anomaly was found on both sides; but I made these instances the object of a special mention in my notes.

Madame L. ROUSSELET (one of the Society's Secretaries). Pardon me, messieurs. It now being 6 o'clock, I'm afraid I have to declare this highly interesting meeting concluded. Thank you, members, for your attendance today.

FOOTNOTES

¹ One finds 62 out of 1000 for the group of 529 Papuan, New Caledonian, Fijian, and Tasmanian skulls.

² In all these cases I did not make any distinction between skulls having a fronto-temporal process on both sides and those having it on only one side.



The pterion (Point P)